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Bridging the Knowledge–Behavior Gap in Healthy Lifestyles: A Socio-Cultural Perspective from PGMI Students Salatiga

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Abstract

Background of study: Healthy lifestyle practices are an essential component of Physical Education (PJOK), particularly for prospective teachers who are expected to become role models for their students. However, previous studies indicate a discrepancy between health awareness and actual behavior among university students.
Aims and scope of paper: This study aims to examine the relationship between knowledge, attitudes, and healthy lifestyle behaviors among students of the Primary School Teacher Education Program (PGMI) at UIN Salatiga.
Methods: A quantitative descriptive approach was employed, involving 112 students who completed a Likert-scale questionnaire measuring health knowledge, attitudes, and behaviors. The data were analyzed using descriptive statistics, particularly mean scores.
Results: The findings show that students have high levels of health knowledge, particularly regarding the benefits of physical activity (M = 4.74), balanced nutrition (M = 4.70), and awareness of the role of teachers as health role models (M = 4.57). Students also demonstrate positive attitudes toward healthy living. However, the implementation of healthy behaviors remains moderate, especially in routine health check-ups (M = 3.14) and regular exercise habits (M = 3.34), indicating a gap between knowledge, attitudes, and actual practices.
Conclusion: The study concludes that although students possess strong knowledge and positive attitudes, these are not consistently reflected in their behavior. Therefore, it is necessary to strengthen behavioral support, self-regulation, and environmental factors within Physical Education learning to promote sustainable healthy lifestyle practices among future teachers.

Keywords: Attitude; Health Knowledge; Healthy Lifestyle Behavior; Physical Education

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INTRODUCTION

Healthy lifestyle practices have emerged as a critical global public health issue, particularly among youth and university students (Bantjes et al., 2022; Ganotice et al., 2022). Physical activity, balanced nutrition, and adequate rest are widely acknowledged as primary determinants of both physical and mental well-being (Hung et al., 2023). However, global reports indicate that a substantial proportion of individuals fail to meet these recommended health standards. According to the World Health Organization's *Global Status Report on Physical Activity*, over 80% of adolescents and 27% of adults worldwide do not achieve sufficient physical activity levels, posing a severe and persistent public health threat. This persistent physical inactivity significantly elevates the risk of non-communicable diseases, including cardiovascular conditions, diabetes, and mental health disorders.

Recent literature surveys underscore that unhealthy dietary patterns and sedentary lifestyles are rapidly escalating among university students. Evidence from recent studies Ammar et al. (2025); Shoranov et al. (2026) demonstrates that the intake of fruits and

vegetables remains alarmingly low, while engagement in regular physical activity is highly inconsistent within this demographic. These trends, corroborated by international reports, suggest that unhealthy lifestyle behaviors are not merely widespread but have become deeply entrenched in the daily routines of young adults (Burgess et al., 2022). Consequently, university students represent a highly vulnerable yet critical cohort for long-term health promotion interventions.

The primary research problem identified in higher education settings is the persistent difficulty students face in translating their cognitive understanding of health into consistent, real-world behaviors (Bates et al., 2022). Despite possessing ample access to health knowledge and educational resources, a prevalent phenomenon occurs where strong intentions are not accompanied by actual execution. This phenomenon is conceptually defined as the knowledge-behavior gap, or more specifically, the intention-behavior gap within health practices.

Generally, addressing this problem requires acknowledging that health behavior is dictated by a complex interaction between cognitive elements, attitudes, and external factors. Improving health outcomes necessitates moving beyond merely increasing cognitive awareness (Fenwick et al., 2024). It demands a comprehensive approach that simultaneously targets behavioral and contextual determinants. The actualization of healthy practices is heavily contingent upon self-regulation capabilities, structured habit formation, and robust environmental support.

Previous scientific literature has proposed various specific solutions to bridge this cognitive-behavioral divide. Numerous studies Mubango & Ngirande (2025); Patzak et al. (2025) have highlighted the efficacy of time-management and self-regulation interventions tailored to the demanding schedules of university students to mitigate academic barriers. Other literature Noaime et al. (2025) emphasizes the modification of the campus environment into an ecosystem that architecturally and socially promotes physical movement and provides better nutritional options, thereby minimizing situational constraints.

Within the specific context of teacher education, the literature highlights the optimization of Physical Education (PJOK) courses as a strategic solution. This course not only integrates physical activity and health knowledge but also focuses on value formation. Prior research Huang & Wang (2024); Wang (2026) indicates that positioning pre-service teachers as future role models for their students can effectively trigger a sense of professional responsibility, which in turn fosters consistency in healthy behaviors.

While an extensive body of literature has addressed the knowledge-behavior gap among university students generally and the importance of integrating Physical Education, an overview of the literature reveals that investigations focusing specifically on the demographic of Islamic Primary School Teacher Education (PGMI) students remain highly limited. Preliminary observations indicate that although PGMI students possess adequate knowledge and positive attitudes toward healthy living, their actual practices frequently misalign with these beliefs. Therefore, a distinct research gap exists in understanding the specific extent of this cognitive-behavioral discrepancy among pre-service Islamic primary school teachers, a group subjected to unique academic workloads and environmental expectations.

Accordingly, this study aims to comprehensively examine the relationship between knowledge, attitudes, and healthy lifestyle behaviors among PGMI students at UIN Salatiga. The novelty of this research lies in providing targeted empirical evidence

regarding the specific locus of the gap between cognitive and behavioral components within the demographic of pre-service madrasah teachers. The scope of this study is delineated to the evaluation of these three variables through the lens of Physical Education coursework, which is intended to serve as a justification for developing more effective instructional strategies—specifically, strategies that prioritize not only cognitive comprehension but also behavioral consistency and the cultivation of sustainable lifestyle practices.

METHODS

This study employed a quantitative descriptive survey design to comprehensively explore the levels of knowledge, attitudes, and actual healthy lifestyle behaviors among university students. The research was conducted at the State Islamic University (UIN) Salatiga, specifically targeting students enrolled in the Islamic Primary School Teacher Education Program (PGMI). The participant pool consisted of 112 students enrolled in the Physical Education course. Participants were selected using convenience sampling and voluntarily completed an online questionnaire distributed during the first meeting of the course. The sample was predominantly female, which accurately reflects the typical gender distribution in primary teacher education programs in Indonesia.

The primary instrument used for data collection was a structured online questionnaire specifically developed based on the core constructs of health behavior theory. The instrument was divided into three main sections: (1) knowledge of healthy living, (2) attitudes toward health practices, and (3) the actual implementation of healthy lifestyle behaviors. Each closed-ended item was evaluated using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Before data collection, the questionnaire underwent expert review and a pilot test to ensure validity and reliability (Cronbach's Alpha > 0.70). In addition to the quantitative scales, the instrument included several open-ended questions to capture qualitative insights into the specific barriers and supporting factors that influence students' daily health behaviors. The overall research procedure followed a systematic five-phase flow, starting from the preparation phase to the final analytical phase, as illustrated in Figure 1.

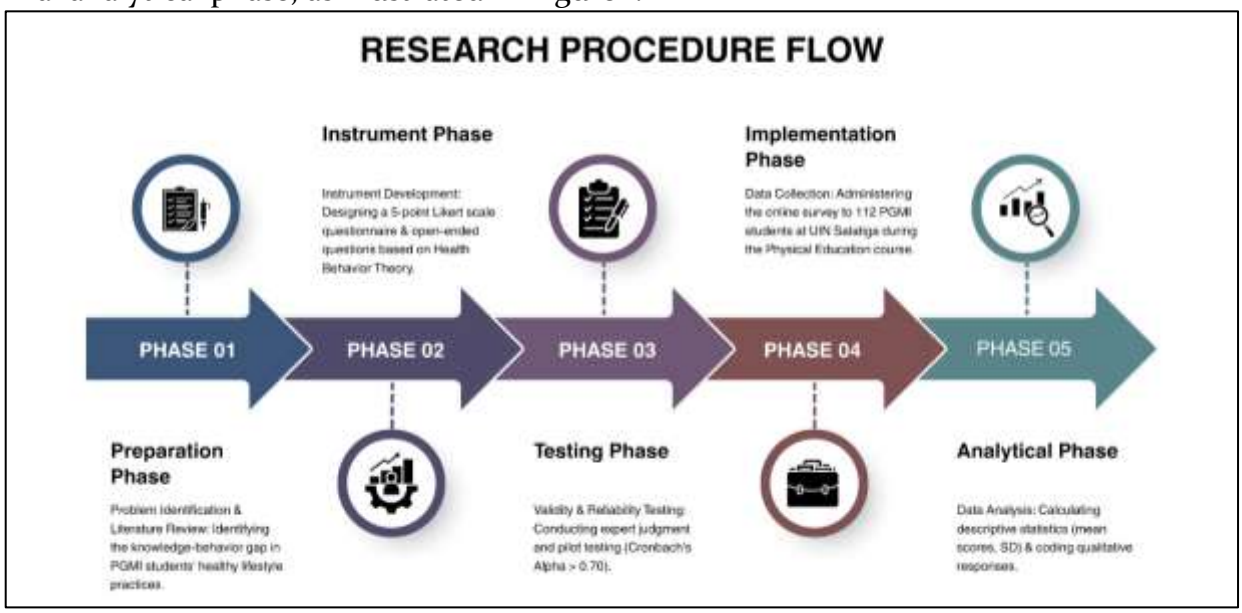

Figure 1. Research Procedure Flow illustrating

Following the preparation and instrument development phases, ethical clearance and participant consent were secured. Subsequently, data were collected via the online survey during the implementation phase. Finally, the raw data were cleaned, tabulated, and prepared for rigorous statistical evaluation.

The collected quantitative data were analyzed using descriptive statistical techniques utilizing statistical software. Descriptive statistics, particularly mean scores and standard deviations, were calculated to identify the central tendencies and response patterns across the three primary domains. The interpretation of these results focused specifically on juxtaposing the students' high levels of health knowledge and positive attitudes against their actual behavioral implementation. This comparative analysis aimed to empirically identify and quantify potential discrepancies, aligning with the Health Behavior Theory framework, which posits that actual behavior is a complex product of not only knowledge but also attitudes, motivation, and external contextual factors. Furthermore, responses from the open-ended questions were categorized thematically to provide contextual depth to the quantitative findings.

RESULTS AND DISCUSSION

The findings of this study indicate that PGMI students at UIN Salatiga demonstrate a high level of knowledge regarding healthy lifestyles. Most respondents strongly agreed that physical activity contributes significantly to improving quality of life, maintaining physical fitness, and preventing disease (See Table 1). In addition, students showed strong awareness of the importance of balanced nutrition, adequate rest, and the role of personal responsibility in maintaining health. The relatively high mean scores across these indicators suggest that students possess a solid cognitive understanding of health concepts, which reflects adequate health literacy.

Table 1. Health Awareness

No.	Indication	Mean
1	Exercise improves quality of life	4.74
2	Balanced diet awareness	4.70
3	Teacher as role model	4.57
4	Sleep awareness	4.53
5	Religious values	4.50

Based on Table 1, the data indicate that students possess an exceptionally high level of health awareness across all measured indicators. The highest mean score was recorded for the perception that exercise improves the quality of life (M = 4.74), followed closely by awareness of a balanced diet (M = 4.70). Furthermore, according to Table 1, students show a strong recognition of their future professional responsibility, with the "Teacher as role model" indicator achieving a high mean of 4.57. This suggests that cognitively, the students are well-informed and have a positive orientation toward health as a fundamental value.

In terms of attitudes, the results reveal that students generally hold positive perspectives toward healthy living (See Table 2). They perceive health as an important aspect of daily life and recognize the responsibility of future teachers to serve as role models for their students (Emilia et al., 2023). Furthermore, many respondents indicated that

maintaining health is not only a personal need but also a professional obligation, particularly in the context of teaching physical education. This positive attitude is also reinforced by students' acknowledgment of the negative impacts of unhealthy behaviors, such as lack of sleep and poor dietary habits (Alves, 2024).

Table 2. Health Awareness

No.	Indication	Mean
1	Health check-ups	3.14
2	Regular exercise	3.34
3	Exercise planning	3.41
4	Consistency	3.41
5	Fast food avoidance	3.65

However, a significant discrepancy is observed when analyzing students' actual behavior. According to Table 2, the implementation of healthy lifestyle practices falls into the moderate category, which is markedly lower than the awareness scores shown in Table 1. The lowest mean score is found in the regularity of health check-ups (M = 3.14), followed by regular exercise habits (M = 3.34). While Table 1 shows that students strongly believe in the benefits of exercise (M = 4.74), Table 2 reveals that their actual consistency in planning and performing exercise remains moderate (M = 3.41). This contrast empirically confirms a substantial gap between respondents' health knowledge and their actual health practices.

The primary objective of this study was to examine the intricate relationship between health knowledge, attitudes, and actual lifestyle behaviors among pre-service teachers in the Islamic Primary School Teacher Education (PGMI) program. The findings, as presented in the preceding section, reveal a compelling paradox that warrants a deep scholarly inquiry. While the cognitive and affective domains—represented by awareness and attitudes—show exceptionally high scores, the psychomotor or behavioral domain remains stuck at a moderate level (Abbasi et al., 2023). This discrepancy underscores the "Knowledge-Behavior Gap," a phenomenon that challenges the traditional assumption that information alone drives lifestyle change.

The Paradox of High Awareness vs. Moderate Practice: A Theoretical Anchoring

According to the data in Table 1, students have an average awareness score of 4.61, which is categorized as "Very High." This suggests that the curriculum and religious values integrated within UIN Salatiga have successfully instilled a robust understanding of health as a fundamental asset. However, Table 2 paints a different picture, with behavioral implementation dropping significantly to an average of 3.39.

This gap can be critically analyzed through the lens of Health Behavior Theory and Ajzen's Theory of Planned Behavior (TPB). According to TPB, behavior is not merely a product of intention (which is high in this study due to positive attitudes), but is heavily mediated by "Perceived Behavioral Control". The moderate scores in Table 2 for consistency (3.41) and regular exercise (3.34) suggest that students feel a lack of control over their daily schedules. This aligns with study Ismawi & Shaari (2024)., which found that cognitive brilliance in health often crumbles under the pressure of academic demands, with students prioritizing immediate scholastic success over long-term physical maintenance

Professional Identity and the Role Modeling Crisis

One of the most critical findings in Table 1 is the high recognition of the "Teacher as role model" (Mean = 4.57). This indicates that the participants possess a strong professional ego-ideal; they understand that as future educators, their personal health will serve as a "silent curriculum" for their pupils. However, the behavioral inconsistency revealed in Table 2 (Consistency Mean = 3.41) indicates a "Role Modeling Crisis".

Drawing from Bandura's Social Cognitive Theory, learning occurs through observation and imitation. If pre-service teachers fail to internalize healthy habits during their formative university years, they risk projecting a disconnected image to their future students. Study Yau & Shen (2025) emphasizes that teachers who do not practice what they preach regarding health often experience lower "instructional credibility" in Physical Education courses. Therefore, the moderate implementation of regular exercise (3.34) in Table 2 is not just a personal issue but a professional liability that must be addressed through the PGMI curriculum.

Environmental factors further complicate the discrepancy between Table 1 and Table 2. According to the Behavior Change Wheel framework, capability (knowledge) is only one-third of the equation; opportunity and motivation must also be present. The moderate score for fast-food avoidance (3.65) in Table 2 suggests that students are making choices based on convenience rather than on their high nutritional awareness (4.70 in Table 1). This environmental constraint is often referred to as the "Boarding House Culture." Study Ramadhani et al. (2025) found that students living away from home face significant barriers, including the ubiquity of cheap, processed food and a lack of cooking facilities. Furthermore, the academic environment itself often promotes a sedentary lifestyle. Study Sukartidana & Anam (2025) supports this by stating that the "academic-sedentary cycle"—where long hours of sitting for assignments replace physical movement—directly contributes to the moderate implementation of exercise planning.

Pedagogical Implications for Physical Education (PE)

The findings necessitate a radical shift in how Physical Education is taught in teacher education programs. As confirmed in Table 1, students already "know" the benefits. Thus, further theoretical lectures will likely yield diminishing returns. The study suggests that learning must transition toward Experiential Learning Theory (ELT). Rather than teaching what a healthy lifestyle is, the course should focus on how to maintain it amidst a busy career. Study Darmayanti & Farida (2025) highlights that "Action Planning" and "Coping Planning" are more effective than traditional health education in closing the knowledge-behavior gap. If students are allowed to practice self-regulation skills during their PE courses, such as health tracking or structured habit-building exercises, the moderate scores in Table 2 could be elevated to match the high awareness in Table 1.

A unique strength of this demographic is the high score for "Religious values" in health awareness (Mean = 4.50). In the context of an Islamic university like UIN Salatiga, the body is viewed as an Amanah (a divine trust). This theological foundation offers a powerful motivational tool that is often absent in secular health studies. Study Asrofik et al. (2024) suggests that when health practices are framed as worship (ibadah), psychological resistance to behavioral change is significantly reduced. By bridging the gap between spiritual duty and daily habits, PGMI students can leverage their high religious awareness to improve their moderate behavioral consistency.

The data from Tables 1 and 2 provide a clear empirical map of the challenges facing future teachers. The high health literacy and professional awareness (Table 1) are necessary foundations, but they are clearly insufficient for behavioral transformation (Table 2). To move forward, it is essential to address the systemic barriers of student life, including time management, environmental accessibility, and the transition from theoretical knowledge to professional embodiment. The goal of teacher education should not be to produce graduates who can pass a health exam, but to cultivate educators who "live the curriculum" they are destined to teach.

CONCLUSION

This study underscores a significant knowledge–behavior gap among pre-service teachers in the Islamic Primary School Teacher Education (PGMI) program, where exceptionally high levels of health awareness (M=4.61) and strong perceptions of professional role modeling (M=4.57) fail to translate into consistent healthy practices (M=3.39). The findings indicate that high health literacy is insufficient to drive sustained lifestyle changes, as students struggle to maintain regular exercise and health monitoring due to environmental barriers and limited self-regulation. By documenting this discrepancy within the specific context of pre-service madrasah teachers, this study contributes a unique demographic perspective to the existing literature on health education in higher education. The results emphasize a necessary pedagogical transition in Physical Education curricula toward experiential learning that prioritizes habit formation and behavioral support over theoretical knowledge. Future research should examine the long-term effectiveness of structured behavioral interventions and the influence of campus infrastructure on the consistency of lifestyle and professional identity among future educators.

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AUTHOR CONTRIBUTIONS AND DECLARATIONS

YR contributed to the research design, data collection and analysis through literature review, and drafting the initial draft of the manuscript. BKP contributed to providing conceptual direction, conducting content review and validation, and editing and refining the manuscript.

All authors have read and approved the final version of the manuscript. All authors declare that this work is original work, free from plagiarism (with a similarity level of no more than 15%), has met the ethical standards of scientific publication, and is willing to be responsible for all consequences if in the future it is discovered that there is a violation of these provisions.

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